1857.

BOROUGH OF CARDIFF.

THE

FOURTH ANNUAL REPORT

ON

SANITARY CONDITION OF CARDIFF.

[for the year 1857]

BY H. J. PAINE, M.R.C.S. &c.

OFFICER OF HEALTH.

PRINTED BY ORDER OF THE LOCAL BOARD OF HEALTH.

CARDIFF.

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ON

SANITARY CONDITION OF CARDIFF.

TO THE CARDIFF LOCAL BOARD OF HEALTH,

Cardiff, January, 1857.

GENTLEMEN,

It is my duty to-day to bring before your notice the prevailing sickness and mortality of this town during the past year. In doing this, I have endeavoured to collect such data as may enable you to form a correct estimate of its sanitary condition as compared with other districts.

The importance of attention to sanitary regulations is placed prominently before you in the last Quarterly Report of the Registrar-General. In reviewing the result of his enquiries into the the extent of mortality during a series of years, he says, "The effects of sanatory measures are becoming apparent, although they are partially carried out within limited areas. Out of a thousand persons living, the fall of the annual deaths from the average of twenty-three in the ten years, 1846 to 1855, and from less than twenty in the year 1855 to less than twenty-one in 1856, is decisive. Forty-seven thousand men, women, and children are now living, who would have been dead had the same

rate of mortality prevailed in the year 1856 as prevailed in the ten years 1846-55; and the loss of life is 34,783 less than it was in the previous year. A certain number of these lives have been saved by sanatory regulations." A careful consideration of the peculiar position of Cardiff can hardly fail to convince you that there are few districts in which so great good can be effected by sanatory provisions as in this town.

The extraordinary yearly increase in its population first demands your consideration. To enable you to judge of its proportionate rate of mortality, it is necessary to determine with something like precision the number of its inhabitants. It has been usual to take the progressive rate of increase during the ten years previous to the census of 1851; but my attention having been directed to the necessity of ascertaining the correctness of this principle, I had reason to believe there were many circumstances operating to cause a still greater rate of increase than during the decennial period alluded to, as large and important Works had been commenced, affording fields of employment. I would instance, among many, the East Bute Dock, the Tidal Dock, large Railway works, Gaol extension, and an immense amount of house building; independent of these, also, a wonderful development of our Shipping trade. I have, therefore, sought to fix it on some unerring principle, and I believe the birth rate affords this.

It has been found that the births bear the rate of nearly three and a half per cent. to the population yearly. This varies but slightly in any given district, or in any year, save that lately there has been a slight fractional increase, but not sufficient to interfere in any recognizable way with the calculation; those districts possessing a large proportion of industrial population, evince greater productive powers; and we may, therefore, be justified in calculating the proportionate rate of births in a town, constituted as Cardiff, to be 4 per cent. The births, during the year 1856, have been 1,237; by this calculation the present number of the inhabitants of the town would be 30,925.

In 1851, the number of inhabited houses was 2,655. I have since ascertained that these have increased, up to the present time, to 3,843; there are also 209 houses now in course of erection. Assuming the number of inhabitants to be 30,925, and the number of inhabited houses 3,843, this would give on an average a fraction above 8 inmates to each house. It has been found, upon enquiry, that the average number of inmates varies according to the class of occupants, from

5½ and 6 in Charles-street, Crockherbtown, and Duke-street, to 7, 8, and 9 in Maria-street, North and South Church-street, while in Ellen-street, Thomas-street, and Herbert-street, it ranges up to 12, 15, and even more,—one house in Herbert-street had, when examined, 29 inmates; thus corroborating the estimate I have made, that the population is fixed at quite its lowest amount.

In addition to the ordinary inhabitants of the town, it is also necessary to take into consideration the number of seamen constantly in the port, as these contribnte to the death rate. To arrive at their number, and to show the great increase in our shipping trade, I have ascertained the aggregate registered tonnage of vessels arriving at the port. as returned at the Custom House, during the last three years, and I find that in

1854,	the	registered	tonnage	amounted to	964,066
1855,	,,	,,	,,	,,	1,024,902
1856,	,,	,,	,,	,,	1,138,105

I then divided 1,138,105 by 12, this gave the monthly average of tonnage in the port. I then allowed one seaman for every 25 tons, making 3,753 as the average number of seamen in the port; or including those not on board, but waiting for engagement, 4,000.

The gross number contributing to our death returns during 1856, stands thus :

Ordinary inhabitants of the town	30,925
Average number of seamen in the port.....	4,000
Total	34,925

I have now to enter on such general matter as I may conceive affects the health of the inhabitants of the town.

Since my former Report, the new system of drainage has arrived almost at its conclusion; its benefits have already been greatly experienced where the low level, and peculiar nature of the soil, (that of alluvial clay,) afford an insurmountable obstruction to the exit of surface water and sewage. This obstruction is now happily removed, and I find in those districts previously constantly liable to, have now rarely, fever in a fatal form, never in an epidemic; thus affording strong and satisfactory evidence of the advantages of this important undertaking.

The water supply is abundant and good; you have, in many instances, exercised the powers conferred upon you by the Health of Towns' Act; and there are consequently few houses of the poor without this necessary adjuvant to health and comfort.

The meteorological conditions during the past year are as follow :— During the first quarter the weather was more than usually mild, with slight excess of rain in January. The temperature continued in excess on the ordinary average until the end of February; the prevailing winds were from the E., S.E., and S.W.; during this period the number of deaths were below the corresponding month of 1855. The fourth week of February the weather became colder, and the thermometer fell below the average. The wind changed to the N.E., and continued more or less Easterly until the end of the quarter, with little rain. The cold dry winds operated unfavourably on the respiratory organs, and deaths from inflammatory affections of the chest, as Pneumonica and Bronchitis became frequent at this time. I also noted a strong disposition to glandular affections in children, but not in a fatal form. Measles in March were fatal in many cases, inflammation of lungs supervening, as was also hooping cough. In the second quarter the temperature continued low and unfavourable to the public health; there was excess of rain during April and May; during April the wind was E., in May it changed to N., N.W., in the last week of this month it became S.W. The temperature rose, and continued in excess slightly through June. There was then a manifest improvement in health, and deaths from inflammatory diseases were less frequent; the mortality in June from all causes fell to 51. During July the temperature was mild, and slightly below the average, thus operating favourably by keeping in abeyance summer diseases; the wind was from the N., S.W., but with little rain: the number of deaths was less during July than during the corresponding months of three years, although with a greatly increased population, as in July there were only 43 deaths. In August the thermometer rose considerably, being as high as 95° in the shade on many occasions, and 114° in the sun. Biliary and gastro-biliary derangements were excited; and many cases of diarrhœa, especially among children, occurred in a fatal form; there were also registered some cases of sporadic cholera. The same tendency to this class of diseases existed more or less through the kingdom, as I find the Registrar-General in his report for the week ending August 9th, says, "The high range of temperature which has prevailed during the last fortnight has had a somewhat unfavourable effect upon the public health." The next week he says, "The inhabitants of London are not in average state of health, summer cholera now prevails, and diarrhœa is also fatal." In Cardiff, there were registered during August, 12 deaths from diarrhœa

or dysentery, and 3 from English cholera; the whole of the latter, and a majority of the deaths from diarrhœa occurred in children under the age of five years. The prevailing winds during this period were from the W.; the rain was in excess in July, but there was a deficiency in August and September; towards the end of the latter month, the temperature fell, and continued favourable to health through October. With November the weather became unusually cold, the wind was N., N.E., and gave rise to fatal inflammatory affections, with a little increase in the death rate generally. In December, the weather was mild. In the middle of the month, it was 6 and 7 degrees above the ordinary mean, and continued more or less mild to the end of the year. During this quarter there was a minimum amount of rain.

The births, during the year, were in the

Winter Quarter	323
Spring	302
Summer	317
Autumn	295
	1237

The deaths during the year were, from disease and other causes,—

Winter Quarter	198
Spring	201
Summer	157
Autumn	141
	697
Deaths on which the Coroner's inquisitions have been held during the year	75
Total	772

There is therefore an excess of births over deaths, amounting to 465.

The birth rate being 4 per cent. on the population, and the deaths 2·176; the difference between the births and deaths is 1·824 per cent. The difference between births and deaths for all England during the last year is 1·354. There is therefore an excess of nearly ½ per cent. in favour of the births over the deaths in this town, as compared with other districts: this would have been still greater had the 4,000 seamen contributed to the births as they have done to the deaths. Thus the number of seamen who died in the port during the year was 42

from disease, and 20 from accidents, making a total of 62. The number of births *nil.*

The deaths in this town during the year, from all causes, amounting to 772, and the population being estimated at 34,925; the proportion of the deaths to the living is 2·210 per cent. The mortality of all England, in 1856, was 2·055. The mean mortality of 152 districts, and 23 sub-districts, comprising the chief towns, was 2·356. The mean mortality in the remaining districts of England and Wales, comprising chiefly small towns and country parishes, was 1·791. To make this more comprehensible, I place this comparative mortality in the form of a table:—

PLACES.	Population.	Deaths.	Per centage of deaths to living.
Cardiff	34,925	772	2,210
125 Districts, and 23 Sub-districts, comprising Chief Towns	8,247,017	208,120	2,356
In the remaining Districts and Sub-districts comprising small Towns & Country Parishes,	9,680,592	183,239	1,791
All England	17,927,609	391,369	2,055

According to the last annual report of Dr. Letheby, Officer of Health to the City of London, "The deaths in that City were 24 per thousand, varying according to the peculiar character of the inhabitants of each district, from 15 to 30 per thousand. The average death rate of the City of London Union, was as low as 17 per thousand; but in the Southern part of the West London Union, the mortality was 30 per 1000." Perhaps I can hardly bring before your notice a stronger illustration of the necessity of sanitary supervision than that within a given area, the death rate should vary to such a degree. The importance of the consideration involves the question as to whether had the same sanitary precautions existed in the one district that had been observed in the other, that out of every 1,000 inhabitants would 17 only have died instead of 30?

The following is the comparative Table of Deaths from all causes for four Years.

		1853.	1854.	1855.	1856.
Sporadic Diseases of known Seat.	Diseases of Brain and Nervous System.				
	Convulsions	67	81	82	93
	Inflam. & Disease of Brain	8	13	13	17
	Apoplexy	2	1	3	2
	Paralysis	4	6	6	3
	Epilepsy	3	3	5	6
	Delirium Tremens	0	2	5	0
	Insanity	0	0	1	1
	Hydrocephalus	11	8	10	8
	Disease of Spine	0	0	1	3
		— 95	—114	—126	—133
	Diseases of Chest.				
	Phthisis	111	78	78	91
	Bronchitis	24	14	51	30
	Inflammation of Lungs	32	38	39	61
	Pleurisy	1	0	0	1
	Croup	6	8	13	15
	Asthma	2	3	6	1
	Hydrothorax	0	1	0	0
	Empyema	0	0	1	0
	Laryngitis	0	0	2	0
	Trachitis	0	0	0	3
		—176	—142	—190	—202
	Dis. of Abdominal Cavities and Organ of Digestion.				
	Disease of Heart	2	6	11	13
	Disease of Stomach	3	0	0	6
	„ Liver	8	9	6	8
	„ Bowels	4	19	9	15
	„ Kidney	1	3	2	4
	„ Bladder	0	0	1	0
	„ Womb	3	1	0	1
	„ Œsophagus	1	0	2	0
		— 20	— 32	— 20	— 34
	Zymotic Diseases, Endemic and Epidemic.				
	Fever Cont. and Typhoid	38	18	10	15
	„ Puerperal	6	5	6	2
	„ Scarlet	1	36	19	30
	„ Rheumatic	0	0	3	2
	„ Intermittent	0	0	1	2
	Measles	1	96	2	43
	Small Pox	42	1	0	0
	Hooping Cough	20	1	12	15
	Diarrhœa and Dysentery	22	26	17	25
	Cholera	5	175	1	4
	Erysipelas	4	0	0	2
		—139	—358	— 71	—140
	Sporadic Diseases, Uncertain Seat.				
	Phlegmon	0	1	6	2
	Scrofula	1	6	9	4
	Gangrene	2	1	6	1
	Cancer	3	5	6	7
	Syphilis	4	3	0	1
	Hæmorrhage	1	3	0	0
	Dropsy	9	14	9	14
	Atrophy and Debility	53	75	48	76
	Hydrophobia	1	0	0	0
	Hernia	0	1	0	1
	Scorbutus	0	0	1	0
	Teething	10	26	9	9
	Exhaustion	0	0	0	3
	Gout	0	0	0	1
	Other Diseases	11	20	2	7
		— 95	—155	— 96	—126
Age		34	34	44	24
Unknown		23	22	25	23
Accidents		0	2	0	2
Inquests		60	60	58	75
	Total	644	925	641	772

The 697 deaths from diseases and other causes, took place at the following periods of life. 373 were males, and 324 females:—

	Males.	Females.	Coroner's Inquest	Total deaths at age.
Under one year	122	106	4	232
Above one year	46	45	1	92
„ two years..	27	21	2	50
„ three years	16	14	0	30
„ four years	3	10	1	14
„ five years..	17	13	3	33
„ ten years	6	4	3	13
„ fifteen years	19	24	21	64
„ twenty-five years	22	19	19	60
„ thirty-five years	30	20	4	54
„ forty-five years	13	8	9	30
„ fifty-five years	23	19	3	45
„ sixty-five years	17	10	2	29
„ seventy-five years	9	9	1	19
„ eighty-five years	3	2	0	5
„ ninety-five and upwards ..	0	0	0	0
Uncertain	0	0	2	2
	373	324	75	772

The 75 deaths requiring a Coroner's inqusition appear in the third column, and are again alluded to hereafter.

On reviewing the individual classes of disease, with their relative degree of fatality, it is interesting to trace the little variation yearly in the number of deaths under the head of sporadic disease. The gradually increasing number keeps pace only with the increasing population of the town; and if contrasted with other towns, would be found to bear nearly the same rate per cent. on the inhabitants. There are few diseases in this division which sanitary supervision can affect; perhaps in the first of this class convulsions, under certain conditions, may be more fatal, as in a district containing an undue proportion of labouring families;—when these are obliged, in consequence of high rents and insufficient house accommodation, to live in over crowded dwellings, ventilation may be, and too frequently is, neglected; the constitution, from such a cause, is enfeebled at a period when the individual has less tenacity of life, and an attack of convulsions snaps the tender tie of existence. The same remarks apply to constitutional diseases, as scrofula, atrophy, and mesenteric affections; and possibly to the process of teething, explaining the large mortality under these heads in town districts.

Among diseases of the chest, independent of the increased morta-

lity during the spring and early summer months, arising from inflammatory diseases of the bronchi and lungs, and attributable to the unusually cold and unseasonable weather, phthisis was fatal in more than an average rate; of the 91 deaths occurring during the year from this disease, 57 took place in these months; from July to November its mortality fell to 10 deaths, and in the last two months it was comparatively little fatal.

The whole of the deaths from diseases of the heart took place between April and September.

In March three deaths were registered from exhaustion in consequence of want of food; this is a rare occurence in Cardiff, where labour is abundant. The three children were members of the same family, and an inquest was held on one of them; from the evidence it appeared that the mother was a widow in great distress, and ignorant to what authority she should apply for relief; she was an Irishwoman, recently arrived from Ireland, and understood very little English.

Diseases of the abdominal cavity maintained their ordinary rate of mortality.

There were 22 deaths registered as from unknown causes, and without medical attendance; these occurred at the following ages:—

Under one year	15
One year	2
Twenty-two years	1
Thirty years	1
Forty-five	1
Fifty-nine	1
Sixty	1
Total	22

71 deaths were also registered without a medical certificate, but with cause of death assigned.

I have now to direct your attention to the zymotic diseases: these comprise a class which is materially influenced, and in many instances entirely excited, by removable causes; it is therefore interesting to you, inasmuch as the Legislature has delegated to you certain powers to be exercised for the purposes of controlling or preventing these diseases.

The following table shews the mortality from zymotic diseases for a period of seven years, as compared with deaths from other causes.

Year.	Inquests	Deaths from Sporadic and other causes.	Death from Zymotic causes.	Total Deaths.	Per centage of Deaths from Zymotic diseases to total deaths.
1850....	33	345	117	495	23·63
1851....	45	378	102	525	19·42
1852....	30	407	205	642	31·93
1853....	60	445	139	644	21·58
1854....	60	507	358	925	38·70
1855....	58	512	71	641	11·07
1856....	75	557	140	772	18·13

In 1854, the cholera was epidemic in this country, and was very fatal in Cardiff, hence the large proportion of zymotic diseases in that year.

In 1855, the town was remarkably free from epidemic disease; the proportionate per centage of this class was lower than in any previous year. The general mortality was also low; this has hitherto been observed in every year immediately succeeding a cholera visitation. With this single exception, the proportionate rate of deaths from zymotic diseases during 1856, has been less than in any previous year.

During 1856, measles, scarletina, and hooping cough, were very prevalent; these diseases are peculiar to childhood, and few individuals escape their invasion; they make their appearance at intervals, and although sanitary supervision can never entirely prevent their advent, it may materially affect their severity. The materies morbi of measles, scarletina, and other skin affections, is thrown off from the surface of the body, and floats in the atmosphere as a poison; according to the standard of health of the individual, exposed to this poisoned atmosphere, and according to the intensity of virus in the atmosphere, so are the chances of escape from its influence; if the standard of health be high, and the intensity of virus feeble, the individual may escape altogether, or pass through a mild attack; but how remote is this chance, when the epidemic breaks out among the dwellings of the poor mendicant Irish, who reside in Ellen-street, and such localities? Here, huddled together in one room may be found two and three families of children, with 6, 7, and 8 instances of disease among them; the absence of ventilation precludes any possibility of diluting the poisoned atmosphere; to this, also, is added the circumstance that the constitutions of the inmates are debilitated by their habits of living,

and thus predispose them to receive any disease: the wonder becomes not that so many die, but that any escape.

The last Annual Report of the Registrar General, just published, gives the proportionate rate of deaths from zymotic disease, to total deaths in England for 1852, 1853, and 1854. I subjoin the like result in Cardiff for these years, and I also add that of 1856; but the return of the latter year for all England is not yet completed.

	Proportion per cent. Zymotic disease to total deaths.			
	1852.	1853.	1854.	1856.
Zymotic diseases in England	23·07	20·66	26·27	—
„ „ Cardiff	31·93	21·58	38·70	18·13

This table demonstrates the improved sanitary condition of Cardiff, in a very sensible degree, and an analysis of each individual disease of this class is equally satisfactory thus:—

DISEASES.	Mortality per cent. of Zymotic Deaths to total Deaths in	
	England. 1852.	Cardiff, 1856.
Fever, Typhus	4·15	1·94
„ Punperal	·24	·25
„ Scarletina	4·71	3·88
„ Rheumatis	·11	·25
„ Intermittent	·03	·25
„ Remittent	·16	—
Measles	1·45	5·56
Small Pox	1·82	—
Hooping Cough	2·00	1·94
Diarrhœa	4·39	3·25
Cholera	3·44	·51
Erysipelas	·51	·25

Of the three years' mortality furnished by the Registrar General's Report, I selected 1852, not being enabled to obtain the return of 1856, as stated above, to contrast with the present rate of mortality in Cardiff; in that year there was no severe epidemic in England, it therefore offered a fair criterion to judge the condition of Cardiff during the past year.

There has been no fatal case of small pox in the town for two years, and only one during the preceding year. Vaccination has been very effectually carried out; I have on more than one occasion been called to a case of small pox imported into the town by the shipping, and conveyed to a lodging house; I have then sought to ascertain whether the whole of the inmates have been vaccinated, in the event of any not having been subjected to this process, or had small pox, I have vacci-

nated them, and the satisfactory result has been obtained that the progress of the disease has been arrested. I consider this important to be brought before you, inasmuch as there is a popular prejudice against vaccination at a time when small pox is in the house, or immediate neighbourhood, a prejudice which it is desirable should be removed. A circumstance lately came under my observation, offering strong evidence in favour of the advantages of the prophylactic agent, vaccination. I was summoned to the country to a case of small pox, the eruption had just made its appearance; living in the same room was a young child, and an adult female, the face of the latter bore strong traces of having suffered from small pox when young. I vaccinated the child, and it passed favourably through the process; in a fortnight the female had a second attack of small pox, it assumed a severe confluent form, the child escaped although exposed during the whole of the time to the contagion. It is therefore desirable to ascertain the probable immunity afforded by small pox and cow pock, and whether they relatively differ only in degree as to the time they afford this; may it not be according to the saturation of the system with the poison? thus, by an attack of small pox the individual may be protected for a greater length of time from another attack than by the milder degree of saturation effected by the vaccination process; this assumes the two poisons to be the same, but modified in the one case by passing through the cow; and is, probably, the true explanation; if it is, it must be desirable that the process of vaccination should be from time to time renewed.

There has been latterly a gradual decline in the number of deaths from fever.

The deaths from fever were as follow:

Date.	Locality.	Sex.		Age.	Occupation.
March 10	The Union	M.	..	45 years	Chimney Sweeper.
April 7 ..	Mary Ann-street ..	..	F.	2 years	Beerhouse Keeper's Child.
„ 19 ..	Stuart-street	M.	..	47 years	Porter Merchant.
„ 20 ..	Taff-street	..	F.	12 weeks	Stone Mason's Child.
„ 29 ..	Millicent-street....	M.	..	2 years	Ditto do.
May 5 ..	St. Mary-street	M.	..	16 years	Tradesman's Son.
„ 12 ..	Patrick-street	M.	..	42 years	Navigator.
June 27	Millicent-street....	..	F.	2 years	Seaman's Child.
„ 28	Hill-street	..	F.	4 years	Coalheaver's Child.
July 28..	Christina-street	M.	..	30 years	Seaman.
August 15	South Terrace	M.	..	33 years	Railway Porter.
Sep. 3 ..	David-street	..	F.	4 years	Marine Store Dealer.
Oct. 17..	Union-street	M.	..	23 years	Blacksmith.
Dec. 4 ..	William-street,Dock	..	F.	7 years	Surveyor's Child.
„ 12	Ty'n-y-waun	M.	..	65 years	Shepherd.

There was no fatal fever case registered in the Irish localities of New Town, Stanley Street, Landore Court, or Mill Lane, hitherto the usual habitats of this class of disease. A reference to the Union Register Book of Pauper Sickness exhibits an absence of fever in these localities, and affords strong evidence of the advantages derived from the constant supervision of the Inspector of lodging houses.

Fever may exist under three forms,—the sporadic, the endemic, and the epidemic; in the first it originates in some deranged condition of the individual, such as disordered biliary or other secretions; this may be excited by causes independent of the individual but operating on him as by certain conditions of atmosphere or other causes; when excited by an impure condition of house or locality, it is called endemic; or the disease may spread more generally, it is then considered epidemic. There have been but few cases of fever in an epidemic form in Cardiff during the past year, and I have found but little interference,as your health officer, necessary to prevent its extension; in one instance it required stringent measures.

I visited a severe case of typhus in a Court in Church Street, the house was in an improper condition and over-crowded; the premises around it aggravated the evil, there being on them a cellar containing sewage which escaped from a neighbouring cesspool; I considered these circumstances conjointly the excitants of the fever; I had the sick person removed to the sick ward at the Refuge; although in a very discouraging condition, she ultimately recovered; this, I had reason to believe, would not have been the result had she been left exposed to the depressing influence of the poisoned atmosphere I found her in; I also recommended the inmates to leave the infected locality, the house to be cleansed and disinfected, and the cellar to be connected with the sewers so as to carry off the stagnant sewage: unfortunately these directions were disregarded: at the expiration of a month my attentions was again called to the Court, I then found five cases of confirmed typhus lying in the house, consisting of three adults and two children. I caused them to be removed to the fever wards, one adult young man died, the rest recovered. The owner of the property was summoned before the authorities and a penalty inflicted; the property has been since drained, and put in a satisfactory state.

The fever ward is a large, capacious, well ventilated room, at the Refuge, a building connected with the Workhouse; no extension of disease among the rest of the inmates ensued.

At Winstone Court, Trinity Street, a severe, but not fatal case of typhus occurred; the condition of the Court was bad to an extreme degree, sewage escaped from the cesspool, and flowed towards the door of the house in which the fever case resided; the atmosphere of the room was strongly tainted with exhalations from the soil. The owner of the property had had her attention repeatedly called to the dangerous nuisance but with little effect; I then advised an application to the Magistrates, and a compulsory order for its removal was made.

There were registered during the year 23 cases of diarrhœa and dysentery, of these eighteen were under two years of age, four under twenty-four, two between twenty-five and sixty, and one at seventy-five years: there were four deaths from cholera; these were registered as infantile, or English cholera; occurring as they did during the intensely warm weather of August, they probably proceeded from deranged biliary secretions, or other intestinal irritation. The cases appear on the registry as follow:—

DEATHS FROM DIARRHŒA AND DYSENTERY.

Date.	Locality.	Sex. Male.	Sex. Fem.	Age.	Occupation.	Cause of Death.	Duration of Illness.
Jan. 1	Christina-st., Dock	...	F.	15 wks.	Carpenter's Child ...	Dysentery	3 days.
Mar. 30	Pendoylan-st., do.	M.	...	52 yrs.	Labourer	Diarrhœa	Not stated.
May 7	Tyndal-st.....	M.	...	5 wks.	Mason's Child	,, ...	4 days.
,, 10	Christina-st., Dock	M.	...	9 ,,	Carpenter's Child ...	,, ...	2 weeks.
,, 25	Canal Parade, do.	...	F.	11 ,,	Labourer's Child.....	,, ...	not stated.
Aug. 18	Evelyn-st., do.	M.	...	39 yrs.	Seaman	,, ...	8 days.
,, 11	Henry-st., do.	M.	...	7 mths.	Merchant's Child ...	,, ...	not stated.
,, 15	St. Mary-st.	M.	...	2 ,,	Tradesman's Child...	,, ...	,,
,, 17	Evelyn-st., Dock...	M.	...	10 ,,	Navigator's Child ...	,, ...	,,
,, 17	St. Mary-st.	M.	...	21 ,,	Tradesman's Child...	,, ...	,,
,, 19	Frederica-st., Dock	...	...	2 yrs.	Farmer's Child	,, ...	2 months.
,, 25	Loyd's Court	M.	F.	75 ,,	Stocking Dealer	Inflam. Diarrhœa	8 days.
,, 28	South Ch.-st., Dock	M.	...	5 wks.	Shipwright's Child...	Diarrhœa	6 days.
,, 27	Canal Parade, Dock	M.	...	14 ,,	Seaman's Child	Inflam. Diarrhœa	8 days.
,, 28	Patrick-st., Dock	...	F.	11 mths	Schoolmaster's Child	Diarrhœa	6 days.
,, 31	Charles-st	M.	...	2 ,,	Broker's Child.....	,, ...	7 days.
,, 31	Duke-st	...	F.	10 ,,	Tradesman's Child...	,, ...	7 days.
Sept. 3	Working-st.....	...	F.	3 wks.	Beer Agent's Child...	,, ...	3 weeks.
,, 9	Grange Cottages...	M.	...	12 days.	Builder's Child	,, ...	6 days
,, 15	Rowe's Square.....	M.	...	2 yrs.	Labourer's Child.....	,, ...	3 weeks.
,, 27	South Ch.-st., Dock	M.	...	1 ,,	Sawyer's Child.....	,, ...	10 days.
Oct. 1	Bute-st.....	...	F.	2 mths.	Grocer's Child	Inflam. Diarrhœa	2 weeks.
,, 1	Herbert-st.	...	F.	1 year.	Labourer's Child.....	Diarrhœa	not stated.
,, 6	Tyndal-st.....	...	F.	4 yrs.	Draper's Child.....	,, ...	4 days.
,, 8	Five Bells' Court	M.	...	6 wks.	Chandler's Child.....	Dysentary	not stated.

DEATHS FROM CHOLERA.

Aug. 6	Bute Road.....	...	F.	18 mths	Professional's Child.	English Cholera	26 hours.
,, 9	Union Buildings...	M.	...	1 year.	Labourer's Child ...	,,	not stated.
,, 2	Long Dyke	...	F.	2 mths.	,,	Infantile Cholera	5 days.
Sept. 1	Canal Parade, Dock	...	F.	7 ,,	Farmer's Child	English Cholera	4 days.

Considerably more than half the deaths from diarrhœa occurred in the south, or Bute Dock district, and half the deaths from cholera; in this district the general condition of the streets is very offensive;

there has been during the year very imperfect street drainage, and with few exceptions, no house drainage, the miasma arising from many of the localities in the district, such as after rain and the weather very warm, is at times very sickening.

DEATHS FROM DIARRHŒA, DIVIDED INTO DISTRICTS:—

PLACES.	Diarrhœa.	Cholera.
South or Bute Dock District	14	5
North District	4	—
West „	5	1
East „	—	—
Newtown District	2	1

The seventy-five deaths on which Coroner's inquests were held were as follow:—

CAUSES.	Under One.	1 Year.	2 Years.	3 Years.	4 Years.	5 Years.	10 Years.	15 Years.	25 Years.	30 Years.	40 Years.	50 Years.	60 Years.	70 Years.	Unknown.	Total.
Drowned accidentally	..	..	..	..	..	2	..	9	8	1	1	1	..	..	..	22
„ Found	..	..	..	..	..	..	..	4	3	2	2	1	..	..	..	12
Accidental	..	..	..	..	1	..	3	7	5	1	4	..	2	..	2	25
Natural Causes	2	..	1	..	..	..	..	1	2	..	2	1	..	..	..	9
Found Dead in Bed	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Exhaustion	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Overlaid	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Burnt	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Wilful Murder	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2
Manslaughter	..	1	..	.	..	..	..	..	..	..	..	..	..	..	..	1
Total	4	1	2	0	1	3	3	21	19	4	9	3	2	1	2	75

Of these, 13 were females and 62 males. The large number of 34 deaths from drowning requires your serious consideration as to whether there is sufficient protection to life in the neighbourhood of the docks. In the West Bute Ship Canal alone 24 deaths are registered, in the East Bute Dock 5, in the Feeder 2, in the Sea Lock 8, making a total of 39; the whole of these, with the exception of five, being from drowning; one is registered as drowned while intoxicated; 32 were above 15 years of age, or at that valuable period of life when the individual is contributing to the industry of the country.

The two cases of murder were, one a newly born child found in the canal, and one a seaman aged 28, who was stabbed in a night disturbance in the Bute Road.

The manslaughter case was a child who was run over, criminal carelessness being attributed to the driver.

Six of the deaths from accident were occasioned by an explosion of gas on board a vessel loaded with steam coal, arising from the imprudent closure of the hatches, a seaman unfortunately approaching too near with a light to the spot where the inflammable gas was escaping.

The deaths were distributed over the districts in the following proportions.

East District	138
West do.	99
South do.	195
North do.	73
Newtown do.	138
	643
Public Institutions	54
Inquests	75
Total	772

The deaths at age shew a disproportionate rate of infant mortality arising from the prevalence of infantile eruptive diseases, measles and scarletina, also hooping cough; in consequence of these the mortality among children was 418 deaths under five years of age, being at the rate of 54 per cent. on the total deaths.

I have thus brought before your notice the most distinctive features connected with the mortality of this town during the past year; and am enabled to congratulate you on its very sensible decrease. That this town is now in a much improved sanitary condition is not a mere opinion ventured upon slight grounds, or superficial enquiry, but the result of a close and constant observation during the whole of the year; and I need only appeal to the corroboratory evidence afforded by the decrease in zymotic disease, as illustrated in the tables which I have made, and compared with the extent of mortality from the same causes in other districts, while the per centage of death to the gross number of inhabitants is less than the mean rate observed in England during two years, embracing both rural and urban districts; when taken singly this is still more satisfactory, it being borne in mind that Cardiff increases in a most extraordinary manner, that street after street is hurriedly formed, the demand for house accommodation causes them to be occupied before the house itself is finished, and long before the road or backlets are placed in any thing like a satisfactory state, entailing evils which it has been my duty

continually to bring before your notice, yet with all these disadvantages our sanitary condition has been, as I have shewn in this report, much improved.

The most prominent evils which have presented themselves to my notice have been the condition of the roadways and backlets just alluded to, these have been most marked in the south or Bute Town district, the hitherto imperfect drainage in that locality has opposed anything like efficient abatement of these evils, but this difficulty will be removed on the completion of the drainage now in progress.

The next evil we have had to contend with, has been the over crowded condition of the houses of the labouring classes; this has been met with great success by the efficient supervision of the inspector of lodging houses; and I am enabled by constant observation to testify to the diligence exhibited by P. C. Hibbs in the discharge of this duty; he has reported to me during the year the result of upwards of 8,000 house visits at night, and 23,000 visits by day; the interior of the dwellings being now comparatively clean, and the rooms have tolerable efficient ventilation; the number of inmates has been in the over crowded houses much reduced and distributed in more equal proportions through the houses, but upon the slightest remission of watchfulness this evil increases. In Herbert street, lately 12, 24, 27, and 29 inmates were found in some of the houses; it is this condition of house that materially adds to the rate of infant mortality, as the necessary impure condition of the atmosphere of such habitations, excites the constitutional causes of mortality which I have before alluded to.

The water-closet accommodation, especially in the New Town district, is at present very inefficient, and requires your serious consideration; continually disease comes under my observation, excited by this cause. I have endeavoured to obtain improvement in many instances; but until some better system than that hitherto made use of be adopted, any improvement can be but temporary.

Many of the courts continue in an improper state. Landore-court, although pitched and paved, suffers from inefficient water closet and privy accommodation, and ordure is continually spread over a large extent of its surface. The Court in Ellen-street should be pitched or paved. Winstone's-court is left in anything but a proper state. The advantages that have been derived from pitching and paving Courts, have been marked in those Courts; for instance, Kenton's Court, where

this has been done, by great improvement in the health of the inhabitants. The Court in Mill-lane, frequently brought before your notice, is at times in a most offensive state.

Other evils I have detailed to you in the reports which I have from time to time made to your Board; but I cannot conclude this Report without bearing testimony to the great and ready assistance I have received from Mr. Waring, whenever it has been necessary for me to avail myself of his services; his active co-operation, on some occasions when disease of a formidable character has broken out, has been most valuable; whatever measures he has then deemed essential to abate any excitant of disease, he has firmly, and without delay, enforced; and has thus rendered, by example, in the shape of costs by legal proceedings, the result of a refusal to obey any suggestions which I have previously made to the owner or occupiers of property where these evils exist, and has rendered it unnecessary to apply to your Board for interference.

The Reports furnished me by the Registrar General, have enabled me to obtain valuable information on my inspecting the register of deaths, but for which I might otherwise have overlooked, and from that inspection I have been enabled to compile many tables which will enable me to judge of any undue rate of special mortality. These tables I have not introduced into this Report, as they would have unnecessarily added to its length, but they will become available in future reports, when it is essential to illustrate any particular feature of disease or mortality.

I have the honour to be,
Gentlemen,
Your obedient servant,

H. J. PAINE,
Officer of Health.

W. JONES, PRINTER, DUKE-STREET, CARDIFF.